SHARING COMPUTER
SOFTWARE IN AGRICUL-
TURAL APPLICATIONS
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Scientists at the University of California, Davis, have developed a linear programming model for cattle ranch management. The programs are run on the University's computer and help ranch managers make decisions in beef feedlot, dairy, and range cattle operations where large masses of data about forage, animals, and different types of land are involved. At the National Agricultural Library (NAL), librarians use a commercial information service computer to access bibliographic databases. Through online searches, they can prepare bibliographies from world literature on virtually any topic in the field of agriculture. Hugh Summerville, Jr., a cotton producer in Aliceville, Alabama, found so many applications for microcomputers in the gin, warehouse, and buyer segments of the cotton industry that he formed his own company to develop computer programs for sale to other producers and to related agribusiness. Applications of computers in agriculture began relatively slowly in the 1960's but have come a long way since then. With the availability of university and commercial time sharing services, online databases, and the widespread proliferation of personal microcomputers, the growth of agricultural computing is apparent throughout the country.

Because of costs involved in their development, computerized models, bibliographic databases, and on-farm computer applications are being shared by scientists and researchers at State Agricultural Experiment Stations, State Extension specialists, and farmers. At Purdue University, the FACTS system enables agricultural Extension agents in every county in the state of the Indiana to load programs from a computer program library at the University computing center. The AGNET system at the University of Nebraska enables users nationwide to access a similar centralized library of agriculture-oriented computer programs. Much benefit can result from such sharing, just as benefits accrue through the sharing of literature.

Like literature, computer programs are logical ideas expressed in words in accordance with various syntactical rules. There are different sets of words and rules for different computer programming languages just as there are different words and rules for foreign languages. Common computer programming languages are COBOL (Common Business Oriented Language), FORTRAN (Formula

Translator), and BASIC (Beginners All Purpose Symbolic
Instruction Code). Each of these languages has advantages and
disadvantages and is more appropriate for a certain class of
applications. For example, FORTRAN allows expressions similar to
algebraic formulae and is frequently used in mathematical
applications such as computer modeling. COBOL on the other hand,
uses English-like expressions and is useful in business
applications such as financial analysis or database maintenance.
BASIC is similar to FORTRAN but with fewer technical features and
is commonly used on microcomputers.

Computer applications are either processed in a batch, or in an
online mode. In the batch mode, a program is run and results are
produced when processing is completed such as when updating a
file with a new "batch" of transactions. An online application
frequently has programs which run continuously and may serve many
concurrent users such as in a bibliographic information retrieval
system. An application involving the control or recording of an
ongoing process such as air traffic control or space launch
telemetry uses online programs in "real-time." In all of these
applications, one or more computer programs written in COBOL,
FORTRAN, BASIC or some other computer programming language causes
data to be input, processed, or output.

Databases are not computer programs but are files of data which
are used or processed by a computer program. For example, the
AGRICOLA (Agriculture Online Access) database is a file of
bibliographic citations which is created by indexers at NAL
entering and storing data using an online program on a
minicomputer. A computer program run monthly in the batch mode
consolidates daily citations and produces a monthly database on
magnetic tape. These tapes are provided to commercial
information service firms which transfer the data to magnetic
disk files and allow users to search the files by using online
information retrieval programs.

All too frequently, computer programs and databases are poorly
documented. This causes difficulty in their sharing and use.
The National Bureau of Standards (NBS) has issued extensive
guidance concerning the documentation of computer programs but
most of these guidelines are oriented towards batch, business
type applications. Also, most of the guidance is for technical
documentation during the initiation and development stages of
computer programs. A recent NBS publication distinguishes
between technical documentation and what they call "product"
documentation. This latter category of documentation is what is
needed to facilitate the sharing of computer applications. A
description of the application, its environment (including the
computer programming language and computer used), and a
point-of-contract are the minimum elements to develop a catalog
of computer programs. This product information is also suitable
for a catalog of databases.

There are many sources of product information, including governmental and commercial directories, reports, periodicals, and newsletters. Some of these directories and other sources of information are listed below:

Guide to Computer Program Directories
U.S. National Bureau of Standards
Gaithersburg, MD

Federal Software Exchange Catalogue
U.S. Department of Commerce
Springfield, VA

Directory of Online Databases
Cuadra Associates
Santa Monica, CA

Updated Inventory of Agricultural Computer Programs
University of Florida
Gainesville, FL

Agricultural Computing (Newsletter)
Doane Agricultural Service, Inc.
St. Louis, MO

Farm Computer News (Newsletter)
Successful Farming Magazine
DesMoines, IA

AGNET
University of Nebraska
Lincoln, NE

Another source of computer software is the USDA Science and Education ADP (Automated Data Processing) Clearinghouse. This is a system that collects written descriptions of agricultural ADP applications developed by federal, state, and private organizations, and which offers users an online search capability for computer applications matching their areas of interest. Computer equipment data and software descriptions are included in this database maintained by the Communications and Data Services Division, USDA Science and Education Management Staff, Beltsville, Maryland 20705.

NEW PROJECTS AND POLICIES

DATA PHASE CIRCULATION SYSTEM

The Food and Nutrition Information Center (FNIC) is using the Data Phase Circulation System on an experimental basis. A loan period matrix appropriate to the needs of the Center has been created. Information Systems Division (NAL) is providing support service in resolving problems as they arise. This is an excellent learning experience and should provide the background and knowledge needed to more smoothly implement the circulation for NAL and its D.C. Branch Library. (Joseph Judy, Information Systems Division, (301) 344-3813)

USER FEE PLAN

The Secretary of Agriculture's Review Board has accepted the NAL User Fee Plan submitted July 8. This plan provides for sale of NAL publications through the Government Printing Office (GPO) and the National Technical Information Service (NTIS). The foreign publications exchange program has been exempted from the overall Departmental user fee program to ensure its continued operation. NAL is significantly reducing the size of its foreign address list to those foreign institutions from which the library obtains an exchange copy of a foreign publication. Individuals that remain on the list must provide the NAL with an exchange publication in return for a "free" USDA publication. (Eugene M. Farkas, Educational Resources Staff (301) 344-3778)

SCS ORAL HISTORY

Special arrangements have been made with Douglas Helms, Soil Conservation Service to deposit with NAL on a regular basis copies of all oral history interviews made by Soil Conservation Service. (Alan Fusonie, Maintenance Section (301) 344-3876)

VETERINARY SERIALS UNION LIST

Discussions have been opened between NAL and members of the Veterinary Section of the Medical Library Association on a cooperative program to create a file of data that would comprise a union list of core veterinary journals in member libraries. This cooperative project will enable NAL to ensure that it is subscribing to all professional veterinary journals in accordance with the scope of its collection policy. It will also assist NAL staff to identify sources of veterinary material available on interlibrary loan. (Jesse Ostroff, Field & Special Programs (301) 344-3834)

BUREAU OF ANIMAL INDUSTRY (BAI) HISTORICAL PROJECT

Documents on BAI history, including photographs, manuscripts, and assorted memorabilia are being indentified and cataloged in preparation for the celebration of the 100th anniversary of the founding of the Bureau. NAL is working closely with a USDA Committee established for this event. (Jesse Ostroff, Field & Special Programs (301) 344-3834)

Assessment of the National Agricultural Library - Final Report to the Secretary. Prepared by the Interagency Panel on the NAL. (Washington, D.C.). Science and Education, U.S. Department of Agriculture, 1982. 71 p. $12 paper copy; $4 microfiche. Order from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. PB 8226353.

COOPERATIVE AGREEMENT SIGNED WITH LAND-TENURE LIBRARY

The National Agricultural Library (NAL) has signed a cooperative agreement with the Land Tenure Center (LTC) Library at the University of Wisconsin, to provide a machine-readable record of that Library's monographic holdings and indexed journal literature. The Land Tenure Center Library is a unique resource collection and provides information services specializing in agricultural development, agrarian reform, and rural development, particularly in Asia, Africa, and Latin America. The Center and its Library were supported for several years by the Agency for International Development but now is an integral part of the University of Wisconsin structure.

The Library collection includes 22,000 pamphlets and research reports, plus 15,000 hard-bound publications. Currently the Library receives 350 journals by subscription or gift. These monographic and indexed items beginning with 1982 and going backward to 1962 will be converted to machine-readable records which will be available as an adjunct file of AGRICOLA, or in separate tapes for use by other computerized systems throughout the world.

The Land Tenure Center (LTC) Library is located within the Steenbock Library on the Madison campus of the University of Wisconsin. Daisy Wu heads the Steenbock Library and Terri Anderson the LTC Library. Funds for this conversion were supplied by the Office of Development Information and Utilization of the Agency for International Development. The Field and Special Programs (F&SP) Staff, National Agricultural Library, is managing the cooperative program which includes investments by the University of Wisconsin. The project is anticipated to take six to nine months for conversion. Tapes should be available in the summer of 1983. Contact: John Forbes, F&SP/NAL, (301) 344-3834 for further information.

AGRICULTURAL ROUNDTABLE

More than 30 attendees at the 1982 annual Special Libraries (SLA) Conference in Detroit were present at the Agricultural Roundtable sponsored by the Food & Nutrition Division. Of the 31 who registered their attendance, 22 (70%) indicated that their primary subject area is agriculture.

SLA and in particular the Food & Nutrition Division would like to serve as a focal organizational point for agricultural librarians. Librarians in attendance agreed that they would like to have continuing programs for agricultural librarians at upcoming SLA conferences. The Food & Nutrition Division has agreed to sponsor a special program for the Roundtable at the 1983 conference. Although Division membership varies among those attending the 1982 Roundtable, it was agreed that since agricultural production is included in the Food & Nutrition Division scope notes it is the appropriate division for sponsorship. There was a discussion on a possible name change for the Food & Nutrition Division to include "Agriculture." Jim Tchobanoff, as new Chairman of the Division, agreed to take the issue to the Division Cabinet to determine how the name change might be effected. Land-grant university librarians in attendance voiced some concerns, particularly over the new U.S. Department of Agriculture pricing policies for its publications. The Roundtable will continue to serve as a forum for concerns of this nature.

A mailing list of agricultural librarians interested in the Roundtable is being compiled by Mary Aversa, DIALOG Information Services. Information on upcoming programs will go to Roundtable attendees and other interested people as well as being advertised both outside the Division and outside the association. Please contact Mary Aversa, Marketing Staff, DIALOG Information Services, 3460 Hillview Avenue, Palo Alto, CA 94304, if you wish to be placed on the Roundtable mailing list.

AGRICOLA

The Information Systems Division (ISD) at NAL has distributed revised documentation for the AGRICOLA magnetic tapes to tape subscribers. The revisions include the addition of several fields of data and several new subject categories. All tape changes will be implemented with the sale tape for January, 1983.

Users of the AGRICOLA online or SDI file should take note of several changes. First, we will begin including the CODEN with the journal title for journal article records. There will be several new data elements added for technical reports that will include reformatted information regarding type of report, period covered and funding information. An additional data element will also be added for subject descriptors for technical reports. The other new data elements should have little impact in respect to either retrieval or display of records.

NAL will begin using several new subject categories in January, 1983.

L810   Veterinary pharmacology and
        immune therapeutic agents

V000   Human parasitology

V820   Parasites of humans — general
        and miscellaneous

V821   Parasites of humans — insects
        and other arthropods

V822   Parasites of humans — helminths

V823   Parasites of humans — protozoa

X380   Human medicine

Copies of the revised tape documentation and of the revised subject categories are available from ISD.

The Information Systems Division has also included in the documentation a description of its new alternate tape format. This new format has been designed for processors who wish to work with a format which requires less programming and computer time to convert to their own processing format. All codes and abbreviated entries are translated out to their full text equivalent in the format. For example, subject category codes are carried along with the full text description of the category. A test tape for the format is available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

Joseph Judy, Chief
Information Systems Division
National Agricultural Library
Beltsville, MD   20705
(301) 344-3813

1890 LAND-GRANT LIBRARY DIRECTORS MEET IN ATLANTA

The U.S. Department of Agriculture sponsored through its Higher Education Office, the Agriculture Research Service, and the National Agricultural Library a Fall Workshop on "Promoting Agricultural Information Services at the 1890 Land-Grant College and University Libraries and Tuskegee Institute." The workshop drew seventeen participants to Atlanta, GA, September 20-22.

The workshop provided instruction and demonstration on the establishment and operation of science and technology information services for agricultural researchers, resident instructors, and extension personnel at the 1890 colleges and universities and Tuskegee Institute.

NEW PUBLICATIONS OF NOTE

Effects of Gaseous Air Pollution in Agriculture and Horticulture. M.H. Unsworth and D.P. Ormrod. London, Butterworth Scientific (1982). 532 p. $89.95. Order from Butterworths, 10 Tower Office Park, Woburn, MA 01801. ISBN 0-408-10705-7.

A Guide to Federal Income Tax for Timber Owners. Supersedes Agriculture Handbook No. 274, "The Timber Owner and His Federal Income Tax." Washington, D.C., Forest Service, U.S. Department of Agriculture, 1982. 74 p. (Agriculture Handbook No. 596). $4.75. Order from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Livestock Environment II. Papers from the Second International Livestock Environment Symposium, Ames, Iowa, April 20-23, 1982. St. Joseph, MI, American Society of Agricultural Engineers, 1982. 624 p. $36.50 ($29.50 ASAE members, postpaid). Order from ASAE, Department 1418, 2950 Niles Road, St. Joseph, MI 49085.

New Information Technologies -- New Opportunities. 1981 Clinic on Library Applications of Data Processing. Linda C. Smith. Champaign-Urbana, University of Illinois Graduate School of Library and Information Science, 1982. 119 p. $11.00 (clothbound). Order from Graduate School of Library and Information Science, 249 Armory Building, 505 East Armory Street, Champaign, IL 61820.

New Technologies to Raise Agricultural Efficiencies. Robert G. McElroy and Kenneth R. Krause. Washington, D.C., Economic Research Service, U.S. Department of Agriculture, 1982. 38 p. (Agricultural Information Bulletin No. 453). $4.50. Order from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Microfiche copies can be purchased from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

Pneumatic Dust Control in Grain Elevators: Guidelines for Design Operation and Maintenance. Panel on Causes and Prevention of Grain Elevator Explosions, Committee on Evaluation of Industrial Hazards, National Materials Advisory Board; Commission on Engineering and Technical Systems, National Research Council. Washington, D.C., National Academy Press, 1982. 132 p. (NMAB 367-3). Free. Supply limited. Request from National Materials Advisory Board, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.
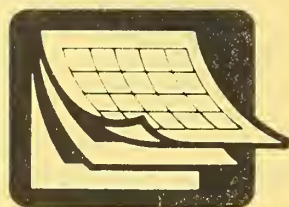
Primrose McConnell's The Agricultural Notebook. 17 ed. R.J. Halley. London, Boston, Butterworth Scientific, 1982. 683 p. $39.95. Order from Butterworth's, 10 Tower Office Park, Woburn, MA 01801. ISBN 0-408-10701-4.

Proceedings of the Workshop on Estimating Erosion and Sediment Yield on Rangelands. Tucson, Arizona, March 7-9, 1981. (Washington, D.C.). 228 p. (Agricultural Reviews and Manuals. ARM-W-26/June 1982). Free. Single copies available from USDA-ARS, Southwest Rangeland Watershed Research Center, 442 E. 7th Street, Tucson, AZ 85705.

Soil and Water Resources: Research Priorities for the Nation: Executive Summary. William E. Larson. Madison, WI. Soil Science Society of America, Inc., 1981. 45 p. $4.00. Order from Soil Science Society of America, 677 S. Segee Road, Madison, WI 53711.

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| CORRECTION |
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| *Resource Conservation Glossary* published by the Soil Conservation Society of America was incorrectly listed as *Resource Conservation Directory* in New Publications of Note column of *ALIN* 8(9) September 1982. |
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AGRICULTURE DATEBOOK

December 6-10: *National Farmers
Organization.* Louisville, KY.
Contact: Devon R. Woodland, Pres., 720
Davis Avenue, Corning, IA 50841.

December 6-10: *International Confer-
ence on Chemistry and World Food
Supplies--The New Frontier (CHEMRAWN
II).* Manila, Philippines. Contact:
Joyce Torio, CHEMRAWN II Coordinating
Office, International Food Policy
Research Institute, 1776 Massachusetts
Avenue, N.W., Washington, D.C. 20036.

December 7-9: *Sixth International
Online Information Meeting.* London,
England. Contact: Organizing
Secretary, Online Information Meetings,
Online Review, Learned Information.,
Besselsleigh Road, Abingdon, Oxford
OX13 6LG, England. Tel: 0865-730275;
Telex: 837704.

December 13-14: *Fourth National
Drainage Symposium.* Contact: Darrell
W. DeBoer, Program Chairman, Department
of Agricultural Engineering, South
Dakota State University, Brookings, SD
57007. Tel: (605) 688-5141.

December 13-15: *Infrastructure of an
Information Society.* Co-hosted by
Egyptian Society for Information
Technology and American Society for
Information Science. Cairo, Egypt.
Contact: Bahaa El-Hadidy, ESIT/ ASIS
Conference Co-Chairman, Graduate School
of Library and Information Science, The
Catholic University of America,
Washington, D.C. 20064. Tel: (202)
635-5702 or 635-5085.

December 27-30: *Two Symposia:
Crayfish Distribution Patterns and
Factors Affecting Crustacean Growth.*
Hyatt Regency Hotel, Louisville, KY.
Contact: Patsy A. McLaughlin,
Department of Biological Sciences,

1983

January 16-19: *Seventh Annual Larval Fish
Conference and Semiannual Meeting of the
AFS Early Life History Section.* Colorado
State University. Contact: Darrell E.
Snyder, Larval Fish Laboratory, Colorado
State University, Fort Collins, CO 80523.

February 9-11: *First International
Biennial Conference on Warm Water
Aquaculture.* Sponsored by Brigham Young
University-Hawaii Campus. Contact: Warm
Water Aquaculture Conference, Department of
Tropical Agriculture, Box 135, BYU-Hawaii
Campus, Laie, HI 96762 or call (808)
293-3443.

May 8-13: *International Symposium on
Tilapia in Aquaculture.* Tiberias, Israel.
Contact: Organizing Committee, Interna-
tional Symposium on Tilapia in Aquaculture,
P.O. Box 3054, Tel Aviv, 61030, Israel.

June 1-4: *Third Symposium on Coastal and
Ocean Management.* COASTAL ZONE '83. Town
and Country Inn, San Diege, CA. Contact:
Coastal Zone '83, P.O. Box 26062, San
Francisco, CA 94126.